ABSTRACT

A low energy method of pyrolysis of rubber or other hydrocarbon material is provided. The hydrocarbon material is heated while maintaining a vacuum, using a clay catalyst. In an additional embodiment, the temperature of the reaction chamber and corresponding fuel input is varied either over time or spatially within the reaction chamber, to take advantage of the exothermic properties of the reaction. With the method of the present invention, a higher quality solid reaction product can be achieved, as well as a liquid having reduced polyaromatic hydrocarbons and oxidized organic contaminants.